

vacuum filter.

The Examiner asserts that although Packer discloses none of the three recited devices for carrying out Applicants' steps (B) and (C), O'Meadhra discloses a method of producing terephthalic acid using a centrifuge or a rotary vacuum filter. Thus, the Examiner takes the position that it would have been obvious to a person of ordinary skill in the art to use the rotary vacuum filter disclosed in O'Meadhra in the method disclosed in Packer.

Lastly, the Examiner asserts that the prior art teaches that "hot pressurized mixture of vapors can be used to heat either the oxidation effluent or a heat exchange fluid that can be used in a thermodynamic energy conversion." Thus, the Examiner takes the position that this passage suggests the use of the internal energy for evaporating the liquid in the cake.

#### Applicants' Arguments

Applicants respectfully disagree with the Examiner's position for the following reasons.

Applicants' claim 1 recites the following three limitations:

1) The solid-liquid separation step (B) and the cleaning step (C) are carried out using a device selected from the group consisting of a screen bowl centrifuge, a rotary vacuum filter and a horizontal belt filter.

2) The pressure not less than the atmospheric pressure in the cleaning step (C) is released in the evaporation step (D) to evaporate any liquid remaining on or in the cakes with its internal energy.

3) Both the solid-liquid separation step (B) and the cleaning step (C) are carried out at a pressure not less than the atmospheric pressure.

Applicants' claim 1 differs from Packer and O'Meadhra in that neither Packer nor O'Meadhra discloses or suggests that both the solid-liquid separation step (B) and the cleaning step (C) are carried out at a pressure not less than the atmospheric pressure. Although O'Meadhra discloses the use of a centrifuge and a rotary vacuum filter, this does not necessarily mean that the above steps are carried out at a pressure not less than the atmospheric pressure.

Regarding feature 1), the Examiner is respectfully requested to reconsider the arguments set forth on pages 10 and 11 of the Amendment filed October 21, 2008. Specifically, Applicants' previous claims recited that steps (B) and (C) were carried out using a single common device. Applicants amended the claims to define the single common device, as a device selected from the group consisting of a screen bowl centrifuge, a rotary vacuum filter and a horizontal belt filter.

As previously argued, Packer clearly fails to teach or suggest that the solid-liquid separation step and the step of cleaning the crude terephthalic acid cakes are carried out using a single common device. On the contrary, Packer states, "The resulting suspension of precipitated terephthalic acid is charged to a centrifugal filter, the collected precipitate is washed with fresh 97 percent acetic acid and dried." Ordinarily, "drying" is carried out using a different device from the devices for "centrifugal filtering" and for "washing". Thus, even though the three steps of "centrifugal filtering", "washing" and "drying" are recited in one sentence in Packer, this does not mean they are carried out using a single common device, i.e., a screen bowl centrifuge, a rotary vacuum filter or a horizontal belt filter.

The Examiner relies upon O'Meadhra as teaching a rotary vacuum filter. However, the Examiner has not addressed why the combination of O'Meadhra and Packer would have motivated one of ordinary skill in the art to carry out the solid-liquid separation step and the cleaning step in a single common device. Applicants respectfully assert that the combination of references would not have motivated one of ordinary skill in the art to carry out Applicants' recited steps (B) and (C) in a single common device.

Regarding feature 2), as stated above, the Examiner states that “the prior art [Packer] does teach that ‘hot pressurized mixture of vapors can be used to heat either the oxidation effluent or a heat exchange fluid that can be used in a thermodynamic conversion.’ ... From this passage, it does imply that it seems reasonable to employ the internal energy for evaporating the liquid in the cake.” (Please see page 6 of the Office Action.)

However, Applicants respectfully assert that the Examiner has misunderstood this passage of Packer. This passage means to “impart vapor heat to the heat exchange fluid”, i.e., to move heat, and nothing more. This passage does not suggest Applicants’ recited limitation of evaporating “any liquid remaining in or on the cakes” using “the internal energy possessed by the terephthalic acid cakes and/or the liquid remaining in or on the cakes”. In other words, the passage does not suggest evaporating the liquid possessing the internal energy itself.

Regarding feature 3), the internal energy includes not only thermal energy but pressure energy. Thus, Applicants’ claim 1 requires both the solid-liquid separation step (B) and the cleaning step (C) be carried out at a pressure not less than the atmospheric pressure. Neither Packer nor O’Meadhra even remotely suggests that the solid-liquid separation step (B) and the cleaning step (C) both be carried out at a pressure not less than the atmospheric pressure. As a natural result, neither of these references even remotely suggests that by releasing the pressure in the cleaning step (C), which is not less than the atmospheric pressure, “the pressure is used as the internal energy to dry the cakes”. In fact, with the heat exchange disclosed in Packer, it is difficult to use the pressure as internal energy.

For the reasons stated above, the subject matter of Applicants’ claims is patentable over the cited combination of references. Withdrawal of the rejection is respectfully requested.

**Conclusion**

Therefore, in view of the foregoing remarks, it is submitted that the ground of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Request for Reconsideration, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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